DATA ITEM DESCRIPTION

Form Approved
OMB No. 0704-0188

1. TITLE	2. IDENTIFICATION NUMBER
Noise Measurement Report (NMR)	DI-HFAC-80938A

3. DESCRIPTION/PURPOSE

3.1 The NMR provides data for Steady State Noise, Personnel-Occupied Areas; Aural Non-Detectability; Community Annoyance (Acceleration, Drive-by, Stationary); and Impulse Noise, Personnel-Occupied Areas noise measurements conducted on materiel.
3.2 The report is used for evaluation of noise measurement levels.

4. APPROVAL DATE (YYMMDD)	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR)	6a. DTIC APPLICABLE	6b. GIDEP APPLICABLE
910708	MI		

7. APPLICATION/INTERRELATIONSHIP

7.1 This Data Item Description (DID) contains the format and content preparation instructions for the NMR resulting from the work task described by 5.5 of MIL-STD-1474C.

7.2 This DID supersedes DI-HFAC-80938

8. APPROVAL LIMITATION	9a. APPLICABLE FORMS	9b. AMSC NUMBER
		A6661

10. PREPARATION INSTRUCTIONS

10.1 Reference documents. The applicable issue of the documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as specified in the contract.

10.2 Format. The NMR format shall be contractor selected. Unless effective presentation would be degraded, the initially used format arrangement shall be used for all subsequent submissions.

10.3 Content. The NMR shall contain all the applicable data required by 5.5 of MIL-STD-1474 and shall contain the following noise measurement data:

10.3.1 Steady-state noise, personnel-occupied areas.

10.3.1.1 Measurement. Data from measurements from on-site unweighted octave band analysis, A and C weighted sound pressure levels and when appropriate, speech interference level (SIL-4). The measurement location at each operator or crew position, representative passenger positions and occasionally occupied positions.

(Continued on Page 2)

11. DISTRIBUTION STATEMENT

DISTRIBUTION STATEMENT A:
Approved for public release; distribution is unlimited.

Block 10, Preparation Instructions (Continued)

10.3.1.1.1 Duty cycle testing. Noise level (Ldod) as described in 3.5 of MIL-STD-1474, and the description of the test site, when the procuring activity specifies typical duty cycle testing.

10.3.1.1.2 Noise contours. Distances and directions from the noise source at which the noise level is 85 dB(A) are required when the noise level of the source has been determined to be 85dB(A) or greater.

10.3.1.2 Operating conditions for system testing. The operating conditions for tests including the identification of subsystems and auxiliary equipment operating concurrently.

10.3.1.3 Mobile equipment testing

10.3.1.3.1 Vehicles. Noise data measured at two-thirds rated engine speed or two-thirds posted vehicle speed (in the highest gear), and all other speeds as specified by the procuring activity. Noise levels for load-carrying equipment and vehicles for conditions of two-thirds maximum load and two-thirds off-highway payload, respectively and the identification of auxiliary equipment operating concurrently.

10.3.1.3.2 Off-road construction and materials-handling equipment. Noise levels, equipment speed, load and test site surface.

10.3.1.3.3 Watercraft. Noise levels, craft speed and water surface conditions.

10.3.1.4 Stationary equipment testing. Noise data, operating speed, operating load and list of auxiliary equipment operating during the test.

10.3.1.5 Test environment and instrumentation

10.3.1.5.1 Test environment. Description of test site, identifying the locations of potential reflecting surfaces, the background noise level at time of test, location of test personnel and the use of windscreens, as applicable. For vehicle tests, road surface conditions and grade. Ambient weather conditions: temperature, humidity and barometric pressure.

10.3.1.5.2 Instrumentation. A list of instrumentation in accordance with (IAW) 5.5 of MIL-STD-1474 and the calibration values before and after each test sequence.

10.3.1.6 Contingency reporting. Where measurement has shown that system noise is greater than the limits of Category D, Table II of MIL-STD-1474, evidence that reduction of the levels to meet Category D is clearly beyond the state of the art shall be reported. The sequence of events specified in 5.1.1.3.2 of MIL-STD-1474 shall be followed and subsequent analyses shall be reported as applicable.

Block 10, Preparation Instructions (Continued)

10.3.2 Aural non-detectability

10.3.2.1 Measurement. Data from measurements from one-third octave band analysis including the measurement location relative to the ground and the noise source.

10.3.2.2 Operating conditions for equipment testing. The operating conditions of the equipment, which shall be specified by the procuring activity.

10.3.2.3 Test environment and instrumentation

10.3.2.3.1 Test environment. The description of the test site, identifying the locations of potential reflection surfaces, the background noise level at time of test and the location of test personnel. Ambient weather conditions: temperature, humidity, barometric pressure and wind velocity and direction.

10.3.2.3.2 Instrumentation. A list of instrumentation IAW 5.5 of MIL-STD-1474 and the calibration values before and after each test sequence.

10.3.3 Community Annoyance (acceleration, drive-by, stationary)

10.3.3.1 Measurements. Noise level data from measurements specified in Table 4, Sound Level Limits and Test Procedures for Exterior Noise, of MIL-STD-1474 and the measurement locations, as specified in the applicable Society of Automotive Engineers (SAE) Standard from Table VI of MIL-STD-1474.

10.3.3.2 Operating conditions for equipment testing. The operating conditions of the equipment being tested, as specified by applicable SAE Standard from Table VI of MIL-STD-1474.

10.3.3.3 Test environment and instrumentation

10.3.3.3.1 Test environment. The description of the test site, identifying the location of potential reflecting surfaces, the condition of the ground surface around the test area, the path of vehicle travel, the background ambient noise level and the location of test personnel. Ambient weather conditions: temperature, humidity and barometric pressure.

10.3.3.3.2 Instrumentation. A list of instrumentation IAW the applicable SAE Standard from Table VI of MIL-STD-1474 and the field calibration values before and after each test sequence.

Block 10, Preparation Instructions (Continued)

10.3.4 Impulse noise, personnel-occupied areas.

10.3.4.1 Measurement. Data from measurements of peak pressure levels and B-durations and shall include pressure versus time histories of individual noise exposures. The measurement location and transducer orientation at each operator or crew position or measurement position designated by the procuring activity.

10.3.4.1.1 Recording. Either direct oscilloscope photography of pressure time histories or oscillograph or digital plotter pressure-time histories from a frequency modulation (FM) tape recording of the noise exposure.

10.3.4.1.2 Noise contours. The distances and directions from the noise source at which the noise level is equal to 140dB is required when the impulse noise level of the source has been determined to exceed 140dB. The distance and directions from the noise source at which the noise level is equal to the specified impulse noise limit category (X, Y or Z), Figure 5 of MIL-STD-1474 as well as the method of determination.

10.3.4.1.3 Repetitive systems. The effective B-duration, as determined IAW 5.4.4.2 of MIL-STD-1474 of a repetitive system used to establish the maximum allowable peak pressure level of the system.

10.3.4.1.4 Multi-charge systems. The peak pressure levels and B-durations of all the charges associated with a given multi-charge system.

10.3.4.1.5 Ammunition temperature. The peak pressures and B-durations from system tests at temperature extremes for rounds producing impulse noise from rapid burning propellant.

10.3.4.2 Test environment and instrumentation

10.3.4.2.1 Test environment. The description of the test site, identifying the location of potential reflecting surfaces, the background noise level at time of test, the location of test personnel and operations, if present and the use of a microphone windscreen, as applicable. Ambient weather conditions: temperature, humidity and barometric pressure.

10.3.4.2.2 Instrumentation. A list of instrumentation IAW 5.5 of MIL-STD-1474 including specifications of pressure transducers used identifying overshoot characteristics and rise time. The transducer calibration procedures and the results of pre and post test calibration shall be provided.